supporting said thin plate sections; and

one or more piezoelectric/electrostrictive elements arranged on at least one thin plate section of said pair of thin plate sections, wherein:

a minimum resonance frequency of said piezoelectric/electrostrictive device structure, which is obtained when an object member having a size substantially equivalent to that of said fixation section exists between open ends of said pair of thin plate sections, is not less than 20 kHz, and a relative displacement amount between said object member and said fixation section is not less than 0.5 μm at a substantial applied voltage of 30 V at a frequency which is not more than 1/4 of said resonance frequency.

15. (Amended) The piezoelectric/electrostrictive device according to claim 14, ~~wherein:~~further comprising

~~——~~an adhesive ~~intervenes~~intervening between said piezoelectric/electrostrictive element and said at least one thin plate section~~;~~, ~~and~~

~~——~~said adhesive ~~has~~having a thickness which is not more than 10 % of a thickness of said piezoelectric/electrostrictive element.

16. (Amended) The piezoelectric/electrostrictive device according to claim 14, wherein:

~~——~~said one or more piezoelectric/electrostrictive elements are arranged on one thin plate section of said pair of thin plate sections~~;~~, and

~~——~~a thickness of said one thin plate section is thicker than a thickness of the other thin plate section.

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17. (Amended) The piezoelectric/electrostrictive device according to claim 14, wherein~~:~~

~~——~~said object member intervenes between said open ends of said pair of thin plate sections, and ~~wherein:~~

a distance ~~concerning~~of said pair of thin plate sections between a boundary portion ~~with respect to~~of said object member and a boundary portion ~~with respect to~~of said fixation section is not less than 0.4 mm and not more than 2 mm~~;~~, and

~~——~~each of said pair of thin plate sections has a thickness which is not less than 10 μm and not more than 100 μm.

18. (Amended) The piezoelectric/electrostrictive device according to claim 14, wherein said piezoelectric/electrostrictive element ~~is constructed by~~comprises a multilayered member including at least three or more actuator films comprising~~which are composed of~~ piezoelectric/electrostrictive layers and electrode films.

19. (Amended) The piezoelectric/electrostrictive device according to claim 18, wherein said piezoelectric/electrostrictive element comprises~~is composed of~~ said multilayered member having ten or less actuator films.

22. (Amended) The piezoelectric/electrostrictive device according to claim 18, wherein said plurality of electrode films, which are included in said multilayered member for constructing said piezoelectric/electrostrictive element, are stacked alternately, and ~~they~~ are connected so that an identical voltage is applied to every other electrode layer.

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24. (Amended) The piezoelectric/electrostrictive device according to claim 22, wherein one ~~of~~ ends of said electrode layer is formed at a position not including at least said fixation section as viewed in plan view.

26. (Amended) The piezoelectric/electrostrictive device according to claim 24, wherein~~:~~

~~——~~said object member intervenes between said open ends of said pair of thin plate sections, and ~~wherein:~~

~~——~~(1 - Lb/La) is not less than 0.4, ~~provided that:~~wherein,

La represents a shortest distance ~~concerning~~of said pair of thin plate sections between a boundary portion ~~with respect to~~of said object member and a boundary portion ~~with respect to~~of said fixation section~~;~~, and

Lb represents a shortest distance of said thin plate section on which said multilayered member is not formed~~of distances~~ from one of said object member and fixation member boundary portions between said thin plate sections ~~and one of said object member and said fixation section on which said multilayered member for constructing said piezoelectric/electrostrictive element is not formed,~~ to an end of said electrode film.

28. (Amended) The piezoelectric/electrostrictive device according to claim 14, wherein said thin plate sections ~~is composed of~~comprise a metal.

29. (Amended) The piezoelectric/electrostrictive device according to claim 28, wherein said thin plate sections ~~is composed of~~comprise a metal plate subjected to a cold rolling process.

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30. (Amended) The piezoelectric/electrostrictive device according to claim 18, ~~whereinfurther comprising~~ an adhesive~~, which has~~ having a thickness of not less than 0.1 μm and not more than 30 μm~~, is allowed to intervene~~intervening between said thin plate sections and said multilayered member for constructing said piezoelectric/electrostrictive element.

31. (Amended) The piezoelectric/electrostrictive device according to claim 30, wherein said adhesive ~~is composed of~~comprises an organic resin.

32. (Amended) The piezoelectric/electrostrictive device according to claim 30, wherein said adhesive comprises~~is composed~~ glass, brazing material, or solder.

33. (Amended) The piezoelectric/electrostrictive device according to claim 30, ~~whereinfurther comprising~~ an underlying layer ~~is~~ formed on a surface of said multilayered member opposed to a respective one of said thin plate sections.

34. (Amended) The piezoelectric/electrostrictive device according to claim 30, wherein one or more holes or recesses are formed in at least ~~at~~ a portion of said thin plate sections ~~at~~on which said multilayered member is formed.

35. (Amended) The piezoelectric/electrostrictive device according to claim 30, wherein at least a portion of a surface of each of said thin plate sections, on which said multilayered member is formed, is a rough surface.

36. (Amended) The piezoelectric/electrostrictive device according to claim 14,

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~~wherein~~further comprising an adhesive~~, which has~~ having a thickness of not less than 0.1 μm and not more than 30 μm~~, is allowed to intervene~~ intervening between said thin plate section and at least said fixation section.

37. (Amended) The piezoelectric/electrostrictive device according to claim 36, wherein said adhesive ~~is composed of~~comprises an organic resin.

38. (Amended) The piezoelectric/electrostrictive device according to claim 36, wherein said adhesive ~~is composed of~~comprises glass, brazing material, or solder.

40. (Amended) The piezoelectric/electrostrictive device according to claim 36, wherein~~:~~

~~——~~an object member intervenes between open ends of said pair of thin plate sections, and ~~wherein:~~

~~——~~at least an angular portion of said fixation section opposed to said object member is chamfered.

41. (Amended) The piezoelectric/electrostrictive device according to claim 36, wherein~~:~~

~~——~~said thin plate section is manufactured by means of stamping ~~for~~of a metal plate, and ~~wherein:~~

~~——~~a burr, which is brought about by said stamping, is directed outwardly.

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The paragraph beginning at page 1, line 20 has been amended as follows:

Recently, a displacement element, which makes it possible to adjust the optical path length and the position in an order of submicron, is required, for example, in the fields of ~~the~~ optical science, ~~the~~ magnetic recording, and ~~the~~ precision machining. Development is advanced for the displacement element based on the use of the displacement brought about by the inverse piezoelectric effect or the electrostrictive effect caused when a voltage is applied to a piezoelectric/electrostrictive material (for example, a ferroelectric material).

The paragraph beginning at page 6, line 12 has been amended as follows:

In the present invention, it is also preferable that an underlying layer is formed on a surface of the piezoelectric/electrostrictive element opposed to the thin plate section. It is also preferable that one or more holes or recesses are formed at least at a portion of the thin plate section at which the piezoelectric/electrostrictive element is formed. In this arrangement, the adhesive enters the interior of the hole or the recess, and hence the adhesion area is substantially increased. Further, it is possible to achieve a ~~thin~~thinner ~~thickness of the~~ adhesive layer. It is also preferable that at least a portion of a surface of the thin plate section, on which the piezoelectric/electrostrictive element is formed, is a rough surface. In this arrangement, the adhesion area is substantially increased, and hence the adhesion can be tightly effected.

The paragraph beginning at page 8, line 11 has been amended as follows:

According to still another aspect of the present invention, there is provided a piezoelectric/electrostrictive device ~~comprising~~includes a pair of mutually opposing

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thin plate sections, and a fixation section for supporting the thin plate sections; and one or more piezoelectric/electrostrictive elements arranged on at least one thin plate section of the pair of thin plate sections; wherein a minimum resonance frequency of the device structure, which is obtained when an object member having a size substantially equivalent to that of the fixation section exists between open ends of the pair of thin plate sections, is not less than 20 kHz, and a relative displacement amount between the object member and the fixation section is not less than 0.5 μm at a substantial applied voltage of 30 V at a frequency which is not more than 1/4 of the resonance frequency.

The paragraph beginning at page 12, line 11 has been amended as follows:

It is also preferable that an underlying layer is formed on a surface of the multilayered member opposed to the thin plate section. It is also preferable that one or more holes or recesses are formed at least at a portion of the thin plate section at which the multilayered member is formed. In this arrangement, the adhesive enters the inside of the hole and the recess, and hence the adhesion area is substantially increased. Further, it is possible to use a ~~thin~~thinner ~~thickness of the~~ adhesive layer. It is also preferable that at least a portion of a surface of the thin plate section, on which the multilayered member is formed, is a rough surface. In this arrangement, the adhesion area is substantially increased, and hence the adhesion can be tightly effected. It is preferable that an adhesive, which has a thickness of not less than 0.1 μm and not more than 30 μm, is allowed to intervene between the thin plate section and at least the fixation section. In this arrangement, the adhesive may be organic

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resin, or the adhesive may be glass, brazing material, or solder.

The paragraph beginning at page 14, line 1 has been amended as follows:

According to still another aspect of the present invention, there is provided a method for producing a piezoelectric/electrostrictive device comprising a pair of mutually opposing thin plate sections, and a fixation section for supporting the thin plate sections; and one or more piezoelectric/electrostrictive elements arranged on at least one thin plate section of the pair of thin plate sections; the method includes~~comprising~~ the steps of preparing a plurality of thin plates for forming at least the thin plate sections thereafter, the piezoelectric/electrostrictive element, and a support substrate; securing the piezoelectric /electrostrictive element to at least one of the thin plates by the aid of a first adhesive; securing the plurality of thin plates to the support substrate by the aid of a second adhesive to manufacture a master device block including the plurality of thin plates disposed opposingly; and dividing the master device block into a plurality of chips to manufacture individuals of the piezoelectric/electro-strictive devices.

The paragraph beginning at page 14, line 20 has been amended as follows:

According to still another aspect of the present invention, there is provided a method for producing a piezoelectric/electrostrictive device ~~comprising~~including a pair of mutually opposing thin plate sections, and a fixation section for supporting the thin plate sections; and one or more piezoelectric/electrostrictive elements arranged on at least one thin plate section of the pair of thin plate sections; the method ~~comprising~~including the steps of preparing a plurality of thin plates for forming at least the thin plate sections thereafter, the piezoelectric/electrostrictive element, and a

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support substrate; securing the plurality of thin plates to the support substrate by the aid of a second adhesive to manufacture a master device block including the plurality of thin plates disposed opposingly; securing the piezoelectric/electrostrictive element to at least one of the thin plates by the aid of a first adhesive; and dividing the master device block into a plurality of chips to manufacture individuals of the piezoelectric/electro-strictive devices.

The paragraph beginning at page 16, line 20 has been amended as follows:

Further, it is also preferable that the production method according to the present invention further ~~comprises~~includes the step of forming an underlying layer on a surface of the piezoelectric/electrostrictive element opposed to the thin plate before securing the piezoelectric/electrostrictive element to the thin plate by the aid of the first adhesive. It is also preferable that the production method according to the present invention further ~~comprises~~includes the step of forming one or more holes or recesses at least at a portion of the thin plate to which the piezoelectric/electrostrictive element is secured.

The heading beginning at page 25, line 8 has been amended as follows:

DETAILED DESCRIPTION OF THE INVENTION~~PREFERRED EMBODIMENTS~~

The paragraph beginning at page 27, line 5 has been amended as follows:

The piezoelectric/electrostrictive elements 24a, 24b are prepared as separate members as described later on, and the prepared piezoelectric/electrostrictive elements 24a, 24b are affixed~~stuck~~ to the substrate 14 with an adhesive such as organic resin or glass or by means of brazing, soldering, or eutectic bonding.

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Alternatively, the piezoelectric /electrostrictive elements 24a, 24b are directly formed on the substrate 14 by using the film formation method not by using the sticking method described above. In the first embodiment, the piezoelectric/electrostrictive elements 24a, 24b are secured onto the thin plate sections 16a, 16b by the aid of an adhesive 202 respectively.

The paragraph beginning at page 28, line 2 has been amended as follows:

Each of the piezoelectric/electrostrictive elements 24a, 24b ~~comprises~~includes a piezoelectric/electrostrictive layer 26, and a pair of electrodes 28, 30 formed on both sides of the piezoelectric/electrostrictive layer 26. One electrode 28 of the pair of electrodes 28, 30 is formed at least on each of the pair of thin plate sections 16a, 16b.

The paragraph beginning at page 29, line 22 has been amended as follows:

In the piezoelectric/electrostrictive device 10A according to the first embodiment, the voltage is applied to the pair of electrodes 28, 30 via terminals (pads) 32, 34 of the respective electrodes 28, 30 formed on ~~the~~ both side surfaces (element formation surfaces) of the fixation section 22 respectively. The respective terminals 32, 34 are positioned as follows. That is, the terminal 32 corresponding to the first electrode 28 is formed at the position deviated toward the rearward end of the fixation section 22. The terminal 34 corresponding to the second electrode 30 disposed on the side of the external space is formed at the position deviated toward the inner wall 22a of the fixation section 22.

The paragraph beginning at page 42, line 23 has been amended as follows:

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In the piezoelectric/electrostrictive device 10A according to the first embodiment, the hybrid structure is provided, in which the pair of thin plate sections 16a, 16b are made of metal, and the other components, i.e., the movable section 20 and the fixation section 22 are made of ceramics. It is unnecessary that all of the parts are formed with the piezoelectric /electrostrictive material which is a fragile material having a relatively heavy weight. Therefore, the device has the following advantages. That is, the device has ~~the~~ high mechanical strength, and it is excellent in handling performance, shock resistance, and moisture resistance. Further, the operation of the device is scarcely affected by harmful vibration (for example, noise vibration and remaining vibration during high speed operation).

The paragraph beginning at page 60, line 20 has been amended as follows:

When the stacked type piezoelectric/electrostrictive element 24 is ~~stuck~~affixed to the thin plate section 16a, 16b by the aid of the adhesive 202, it is preferable that the piezoelectric/electrostrictive layer 26 and the electrodes 28, 30 (electrode films) are stacked and integrated into one unit in a multilayered configuration, and then they are collectively sintered. In this case, high melting point metal such as platinum, palladium, and alloy thereof is used for the electrodes 28, 30. It is preferable that the electrode 28, 30 is made of cermet as a mixture of the high melting point metal and the piezoelectric/electrostrictive material or another ceramics.

The paragraph beginning at page 66, line 12 has been amended as follows:

Subsequently, as shown in FIG. 21B, the metal plates 152A, 152B are glued to the ceramic stack 160 with the epoxy adhesive 200 so that the ceramic stack 160 is

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interposed between the metal plates 152A, 152B and the hole 130 is closed thereby to provide a hybrid stack 162. In this procedure, when the piezoelectric/electrostrictive elements 24a, 24b are ~~stuck~~affixed to the surfaces of the glued metal plates 152A, 152B, the hole 130 is optionally filled with a filler material 164 as shown in FIG. 21A so that a sufficient gluing pressure may be applied.

The paragraph beginning at page 69, line 11 has been amended as follows:

The stacked type piezoelectric/electrostrictive element 24 is ~~stuck~~affixed to the thin plate section 16b by the aid of an adhesive 202 such as organic resin, glass, brazing, soldering, and eutectic bonding. That is, the stacked type piezoelectric/electrostrictive element 24 is secured by the adhesive 202 to the thin plate section 16a made of metal to thereby construct an actuator section 204 which is the driving source of the piezoelectric/electrostrictive device 10B.

The paragraph beginning at page 97, line 15 has been amended as follows:

At first, in the first technique shown in FIG. 47, a large number of holes 290 are provided through the thin plate section 16a. The stacked type piezoelectric /electrostrictive element 24 is glued to a portion at which the holes 290 are provided, by the aid of the adhesive 202. In this arrangement, the adhesive 202 enters the inside of the holes 290. Therefore, the adhesion area is substantially increased, and it is possible to use a ~~thin~~thinner ~~thickness of the~~ adhesive 202. It is preferable that the thickness of the adhesive 202 is not more than 5 % of the total thickness of the stacked type piezoelectric/electrostrictive element 24 and not less than a thickness of such a degree that the thermal stress due to the difference in coefficient of thermal

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expansion between the thin plate section 16a and the adhesive 202 can be absorbed.

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